

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) Laser system having a repetition rate greater than 50 kHz according to the principle of the regenerative amplifier, comprising at least

- an amplifying laser medium ~~(6)~~,
- a laser resonator having at least one resonator mirror ~~(5)~~ and at least one modulator ~~(3)~~ and
- a pump source, in particular a laser diode source, for pumping the laser medium ~~(6)~~,

~~characterized in that~~ wherein the laser resonator has a pulse stretcher ~~(7, 8a, 8b)~~ as a specially designed component having a structure- and/or material-related dispersive effect, the pulse stretcher ~~(7, 8a, 8b)~~ having a minimum 3rd order dispersion with a maximum 2nd order dispersion.

2. (Currently Amended) Laser system according to Claim 1, ~~characterized in that~~ wherein the pulse stretcher ~~(7)~~ has a block of highly dispersive material, in particular comprising SF57 glass, SF10 glass or BK7 glass.

3. (Currently Amended) Laser system according to Claim 2, ~~characterized in that~~ wherein multiple reflection takes place within the block, in particular by reflection at interfaces.

4. (Currently Amended) Laser system according to ~~any of the preceding Claims~~ claim 1,
~~characterized in that~~ wherein the pulse stretcher (8a, 8b) has a Gires-Tournois
interferometer or a dispersive layer structure, preferably as a folding mirror.
5. (Currently Amended) Laser system according to Claim 4, ~~characterized in that~~ wherein
the pulse stretcher (8a, 8b) has at least two reflecting surfaces, the surfaces being
arranged in such a way that the surfaces are oriented
- relative to one another and
 - at an opening angle, in particular adjustable opening angle,
- and the laser beam is reflected at least twice at at least one of the surfaces.
6. (Currently Amended) Laser system according to ~~any of the preceding Claims~~ claim 1,
~~characterized in that~~ wherein the laser medium (6) has an inversion life time greater
than 1 ms and is in particular Yb:glass or Yb:crystal.
7. (Currently Amended) Laser system according to ~~any of the preceding Claims~~ claim 1,
characterized by a femtosecond oscillator (13) for inputting seed pulses, the
femtosecond oscillator (13) being formed and arranged in such a way that the seed
pulses are femtosecond pulses or picosecond pulses on input into the laser resonator.
8. (Currently Amended) Laser system according to ~~any of the preceding Claims~~ claim 1,
characterized by an electro-optical switching element as modulator (3).

9. (Currently Amended) Laser system according to ~~any of the preceding Claims~~ claim 1, characterized by a pulse compressor outside the laser resonator, in particular according to the Treacy design.
10. (Currently Amended) Laser system according to Claim 9, ~~characterized in that~~ wherein the pulse compressor has a dispersive grating having less than 1700 lines/mm, preferably less than 1200 lines/mm.